	MATERIAL SAFETY DATA SHEET According to 1907/2006/EC	Doc. No. : A-03-002
		Doc. Rev. No. : 01
	Silver-Copper-Zinc-Tin Brazing Alloys Eco Flux Coated Rods	Date: 07/09/2015
		Page no : 1 of 8

1. Preparation and Company Identification

1.1 Preparation identification

Silver Brazing alloys, supplied as coated rods, with following codes:

Code	ISO 17672	EN 1044	AWS A5.8	DIN 8513
Ag60Sn	-	AG 101	-	L-Ag60Sn
Ag56Sn	Ag 156	AG 102	BAG-7	L-Ag55Sn
Ag55Sn	Ag 155	AG 103	-	L-Ag55Sn
Ag45Sn	Ag 145	AG 104	BAG-36	L-Ag45Sn
Ag40Sn	Ag 140	AG 105	BAG-28	L-Ag40Sn
Ag38Sn	Ag 138	-	BAG-34	-
Ag34Sn	Ag 134	AG 106	-	L-Ag34Sn
Ag30Sn	Ag 130	AG 107	-	L-Ag30Sn
Ag25Sn	Ag 125	AG 108	BAG-37	L-Ag25Sn

1.2 Relevant identified uses of preparation and uses advised against

Brazing products.

1.3 Company identification

Company Name: STELLA SRL
 Address: Via Marconi, 26
 City and Country: 21041 ALBIZZATE (VA) - ITALY
 Telephone no.: +39 - 0331 - 985787
 Fax no.: +39 - 0331 - 985803
 Web: www.stella-welding.com
 E-mail of person responsible of Safety Data Sheet: info@stella-welding.com

1.4 Emergency phone number

+39 - 0331 - 985787

2. Hazards Identification


2.1 Classification according to European Regulation no. 1272/2008/EC

HAZARD CLASS AND CATEGORY CODES:	HAZARD STATEMENT CODES:
Eye Irrit. 2	H319

2.2 Label elements according to European Regulation no. 1272/2008/EC



GHS PICTOGRAM: GHS07
 SIGNAL WORD: Warning
 HAZARD STATEMENTS: H319: Causes serious eye irritation.
 PRECAUTIONARY STATEMENTS: P264: Wash hands thoroughly after handling.

	MATERIAL SAFETY DATA SHEET According to 1907/2006/EC	Doc. No.: A-03-002
		Doc. Rev. No.: 01
	Silver-Copper-Zinc-Tin Brazing Alloys Eco Flux Coated Rods	Date: 07/09/2015
		Page no: 2 of 8

P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
 P337+P313: If eye irritation persists get medical advice/attention.

Contains: Potassium tetrafluoroborate (CAS 14075-53-7).

2.3 Other information

Prevent exposure to and inhalation of fumes that are generated during brazing operations, by means of mechanical ventilation and/or protective masks. Workers must wear and properly maintain all personal protective equipments supplied, and comply with safety procedures and information. Workers, prior of starting brazing and soldering operations, must be aware of safety procedures to be followed, and must strictly observe those procedures. Body of worker should be protected by appropriate clothes. Brazing and soldering operations may present the risk of generation of dangerous metal oxides and metal vapours and fumes (small particles with approx dimensions of millimetres).

3. Composition / Information on ingredients

The product is composed by a silver alloy rod covered, on the external surface, by a layer of deoxidant flux.


Silver alloy rod composition:

Substance	CAS No.	CE No.	Conc. %	Classification	
				1272/2088/EC	
Silver (Ag)	7440-22-4	231-131-3	C <= 60		
Copper (Cu)	7440-50-8	231-159-6	C <= 40		
Zinc (Zn) (powder)	7440-66-6	231-175-3	C <= 33	Aquatic Acute 1 Aquatic Chronic 1	H400 H410
Tin (Sn)	7440-31-5	231-141-8	C <= 5		

Deoxidant flux layer composition:

Substance	CAS No.	CE No.	Conc. %	Classification	
				1272/2088/EC	
Potassium Tetrafluoroborate	14075-53-7	237-928-2	C < 50	Eye Irrit. 2A H319	H319

See section 16. of this data sheet for complete description of H Hazard Statements.

	MATERIAL SAFETY DATA SHEET According to 1907/2006/EC	Doc. No. : A-03-002
		Doc. Rev. No. : 01
	Silver-Copper-Zinc-Tin Brazing Alloys Eco Flux Coated Rods	Date: 07/09/2015
		Page no: 3 of 8

4. First Aid Measures

Inhalation (fumes and dusts):

Inhalation of excessive quantities of zinc-oxide and/or copper-oxide, copper, zinc fumes may cause metal-oxide fever. Symptoms are similar to flu-symptoms and may appear even after a delay of 10 hours. Normally symptoms disappear after 24 hours.

Supply fresh air, supply artificial breathing if necessary, keep warm.

If symptoms persist, consult a doctor. If exposed person is unconscious, keep in a stable position, on one side, during transportation.

Ingestion:

Wash mouth thoroughly and call immediately a doctor.

Do not induce vomiting.

Skin contact:

Wash with water and soap. The product may cause an allergic skin reaction: in case of irritation consult a doctor.

In case of contact with hot or molten product, apply appropriate first aid measures.

Eye contact:

Irritant for the eyes. Remove contact lenses and wash with thoroughly with lots of water for at least 15 minutes, keeping eyes wide open.

In case of irritation consult a doctor.

4.1 Most common symptoms and effects

Inhalation:

May cause nose, throat and lungs irritation.

Ingestion:

May cause intestinal irritation, nausea, vomiting and diarrhea.

Skin contact:

Prolonged skin contact may cause skin irritation.

Eye contact:

Irritant for the eyes. Main symptoms: redness, lacrimation.


5. Fire Fighting measures

General information:

Keep product cool with water to avoid decomposition and generation of substances dangerous for health. Always wear complete fire-fighting equipment.

Collect water used for fire extinction and do not release it in drainage systems.

Dispose of contaminated water used for fire extinction as per local laws and regulations.

	MATERIAL SAFETY DATA SHEET According to 1907/2006/EC	Doc. No. : A-03-002
		Doc. Rev. No. : 01
	Silver-Copper-Zinc-Tin Brazing Alloys Eco Flux Coated Rods	Date: 07/09/2015
		Page no: 4 of 8

Recommended fire-extinguishing means:

General means: carbon dioxide, foam, powder and nebulized water.

Un-recommended fire-extinguishing means:

None.

Dangers arising from exposition in case of fire:

Avoid breathing combustion products.

Equipment:

Protective helmet, fireproof clothes, protective gloves (fireproof, cutproof and dielectric), respiratory mask with full face coverage.

6. Accidental Release Measures

Avoid dust formation.

Avoid the product from being released in drainage systems, in superficial waters, in ground waters, in confined areas.

7. Handling and Storage

Handling:

Provide adequate ventilation.

Do not smoke, eat and/or drink on workplace during handling and use.

Wash hands after use.

Storage:

Store in a dry and well aerated place, if possible in the original, closed package.

8. Exposure Controls / Personal Protection

8.1 Exposition Limit Values


Silver:	TLV: 0,1 mg/m ³
Copper fumes:	TLV: 0,2 mg/m ³
Zinc-oxide fumes:	TLV: 5,0 mg/m ³
Tin:	TLV: 2,0 mg/m ³
Potassium tetrafluoroborate:	VLEP: 2,5 mg/m ³

8.2 Exposure Controls

Use of proper technical and safety measures must always be followed.

Keep workplace well ventilated, by means of mechanical air extraction and/or systems for release of exhaust air. If this means are not sufficient to keep the concentration of product below the exposure limit values, wear an appropriate breathing mask.

Personal protective equipments must comply with the following standards. Product must be used in closed-loop circuits, or in very well ventilated areas, with

	MATERIAL SAFETY DATA SHEET	Doc. No. : A-03-002
		According to 1907/2006/EC
	Silver-Copper-Zinc-Tin Brazing Alloys Eco Flux Coated Rods	Doc. Rev. No. : 01
		Date: 07/09/2015
		Page no : 5 of 8

strong localized air extraction systems, otherwise it is compulsory to use the prescribed personal protective equipments always in well ventilated areas.

BREATHING PROTECTION

If workplace exposure limit values are exceeded, and when no localized air-extraction is available, always wear a breathing mask with ABEK2P3 type filter for gases, vapours and powders (ref. EN 141).

The use of breathing protection equipments (such as proper masks with cartridges for vapours, dusts and powders) is anyway necessary when no technical means of limiting worker's exposure are used. Remind however that protection level offered by masks is limited.

For high workplace concentration values, or in emergency, or when exposure levels are unknown, wear a compressed-air, open-circuit, autonomous respiratory system (ref. EN 137), or an external air-intake respiratory system, to be used with a full-face mask, a half mask, or a snorkel (ref. EN 138).

HAND PROTECTION

Protect hands with work gloves type Laminate LCT Film (ref. EN 374).

For optimal work-gloves choice, consider: degradation, rupture time, permeation. Gloves have a wear life that varies with length of exposure.

EYES PROTECTION

Wear sealed safety glasses with side protection (ref. EN 166).

SKIN PROTECTION

Wear waterproof, long-sleeved work-suit, and waterproof, professional use, safety shoes (ref. EN 344).

Wash with water and soap after having removed work clothes.

Wash clothes before re-using.

Provide an emergency shower and an emergency eye-washing system.

9. Physical and Chemical Properties


Physical State: solid
Melting point: rod: between 620 and 760 °C
(dependent on alloy)
flux: approx. 530 °C.

10. Stability and Reactivity

Product is stable in normal conditions of use and storage.

In case of fire or thermal decomposition fumes dangerous for human health may be produced, such as: zinc oxide, hydrogen fluoride, boron trifluoride.

Warning: as brazing temperature increases, metal oxide formation strongly increases.

	MATERIAL SAFETY DATA SHEET According to 1907/2006/EC	Doc. No.: A-03-002
		Doc. Rev. No.: 01
	Silver-Copper-Zinc-Tin Brazing Alloys Eco Flux Coated Rods	Date: 07/09/2015
		Page no: 6 of 8

11. Toxicological Information

Acute toxicity:

Substance	CAS no.	Acute Toxicity	Method	Effect dose
Potassium tetrafluoroborate	14075-53-7	Oral	LD50, rat	5.854 mg/kg

Skin corrosion/irritation:

May cause an allergic skin reaction.

Serious eye damage/irritation:

Irritant for the eyes.

Mutagenicity:

No data available.

Reproductive toxicity:

No data available.

Specific target organ toxicity – single exposure:

No data available.

Specific target organ toxicity – repeated exposure:

Oral, 28 d, rats, 20 - 320 mg/kg. Note: NOAEL

Oral, 80 mg/kg. Note: lowest observed harmfulness value.

Acute effects:

Exposition to fumes is dangerous for worker's health, causing fast poisoning by exposition to metal oxides; may be harmful for skin absorption and for ingestion.

For product inhalation, poisoning can be displayed by various symptoms, such as: eyes, mouth, nose, and throat ache and irritation, cough, difficulty in breathing, dizziness, vertigo, nausea and vomiting.


In worst cases, inhalation may cause: inflammation and oedema of larynx and of bronchi, chemical pneumonia and pulmonary oedema, increase or decrease of heartbeat, excessive salivation or blood sputum, loss of consciousness, behaviour disorders (depression or euphoria).

Brazing fumes may cause irritation of eyes and skin.

12. Ecological Information

Toxicity:

Substance	CAS no.	Species	Method	Effect dose
Potassium tetrafluoroborate	14075-53-7	Fish, Brachydanio rerio Bacteria	LC50, 96h EC50	2.600 mg/l (fluoboric acid) 4.974 mg/l (fluoboric acid)

	MATERIAL SAFETY DATA SHEET	Doc. No. : A-03-002
	According to 1907/2006/EC	Doc. Rev. No. : 01
	Silver-Copper-Zinc-Tin Brazing Alloys	Date: 07/09/2015
	Eco Flux Coated Rods	Page no : 7 of 8

Persistency and degradability:
Water/soil. Result: important hydrolysis.

13. Disposal Considerations

Dispose of according to local regulations.

14. Transport Information

Product is not dangerous for transport.

LAND (ADR / RID) :

Class: ---
UN Number: ---
Packaging group: ---
Name: ---
Tunnel restriction code: ---

SEA (IMDG) :

Class: ---
UN Number: ---
Packaging group: ---
Name: ---
EmS: ---
Marine Pollutant: ---

AIR (IATA) :

Class: ---
UN Number: ---
Packaging group: ---
Name: ---


15. Regulatory Information

Dangerous fumes are formed during use.
See information supplied by the manufacturer.
Comply with the safety instructions.

16. Other Information

Complete description of H Hazard Statements cited at Section 3.:

H319 Causes serious eye irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

	MATERIAL SAFETY DATA SHEET	Doc. No. : A-03-002
	According to 1907/2006/EC	Doc. Rev. No. : 01
	Silver-Copper-Zinc-Tin Brazing Alloys	Date: 07/09/2015
	Eco Flux Coated Rods	Page no: 8 of 8

Note for user:

Information contained in this Data Sheet are based on the knowledge available to us at the date of last document revision. Users should verify the suitability and completeness of information with regard to specific use the product. No data contained in this Data Sheet may be regarded as an assurance of any particular specific property of product. As end use of product is not under our direct control, it is the user's responsibility to fully comply with laws and regulations applicable in safety and hygiene. We do not take any responsibility for any un-proper use of product.